

2SK1056, 2SK1057, 2SK1058

Silicon N Channel MOS FET

REJ03G0906-0200

(Previous: ADE-208-1244)

Rev.2.00 Sep 07, 2005

Application

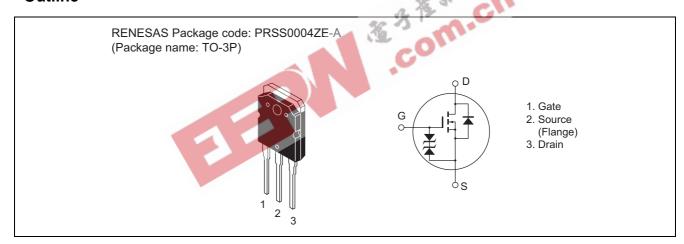
Low frequency power amplifier

Complementary pair with 2SJ160, 2SJ161 and 2SJ162

Features

- Good frequency characteristic
- High speed switching
- Wide area of safe operation
- Enhancement-mode
- Good complementary characteristics
- Equipped with gate protection diodes
- Suitable for audio power amplifier

Outline



Absolute Maximum Ratings

 $(Ta = 25^{\circ}C)$

| Item | | Symbol | Ratings | Unit | |
|---|---------|------------------|-------------|------|--|
| Drain to source voltage | 2SK1056 | V _{DSX} | 120 | V | |
| | 2SK1057 | | 140 | | |
| | 2SK1058 | | 160 | | |
| Gate to source voltage | | V _{GSS} | ±15 | V | |
| Drain current | | I _D | 7 | Α | |
| Body to drain diode reverse drain current | | I _{DR} | 7 | Α | |
| Channel dissipation | | Pch*1 | 100 | W | |
| Channel temperature | | Tch | 150 | °C | |
| Storage temperature | | Tstg | -55 to +150 | °C | |

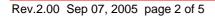
Note: 1. Value at $T_C = 25^{\circ}C$

Electrical Characteristics

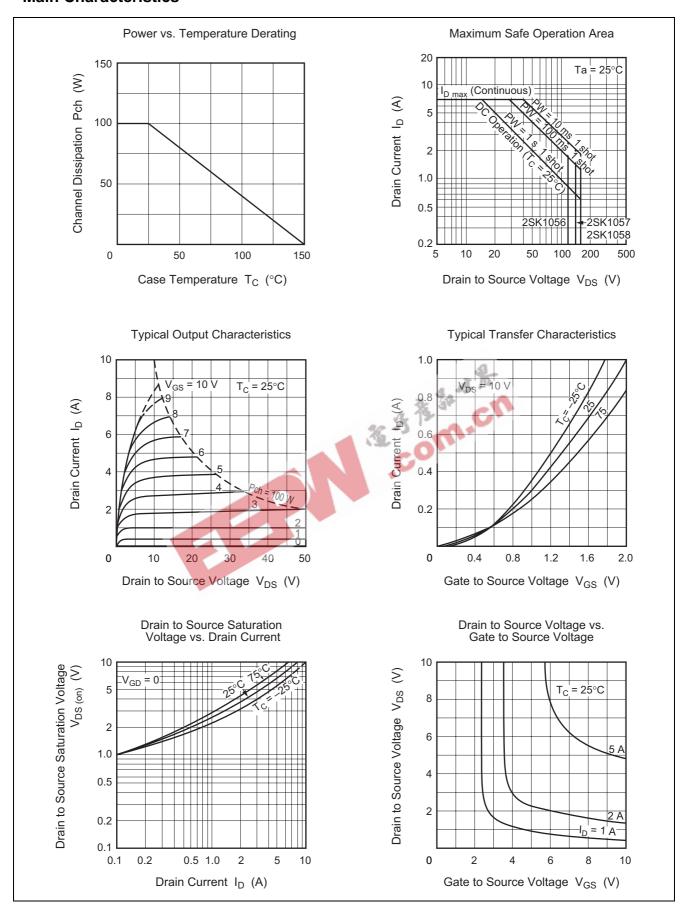
 $(Ta = 25^{\circ}C)$

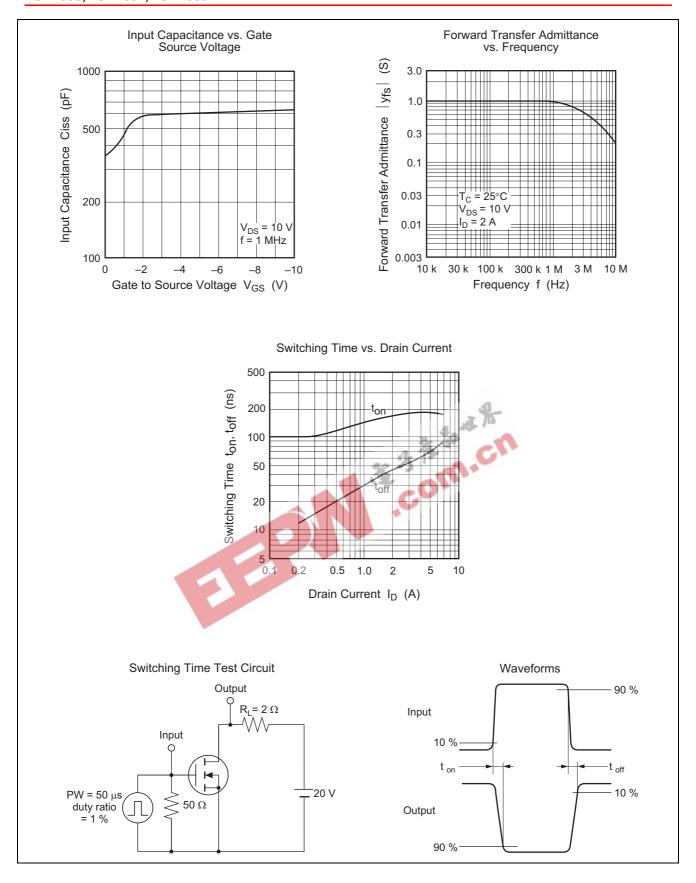
| Item | | Symbol | Min | Тур | Max | Unit | Test conditions |
|------------------------------------|---------|----------------------|----------------|-----|------|------|---|
| Drain to source | 2SK1056 | $V_{(BR)DSX}$ | 120 | _ | _ | V | $I_D = 10 \text{ mA}, V_{GS} = -10 \text{ V}$ |
| breakdown voltage | 2SK1057 | | 140 | | | | |
| | 2SK1058 | | 160 | | | | |
| Gate to source breakdown voltage | | $V_{(BR)GSS}$ | ±15 | _ | _ | - V | $I_G = \pm 100 \ \mu A, \ V_{DS} = 0$ |
| Gate to source cutoff voltage | | $V_{GS(off)}$ | 0.15 | _ | 1.45 | V | $I_D = 100 \text{ mA}, V_{DS} = 10 \text{ V}$ |
| Drain to source saturation voltage | | V _{DS(sat)} | _ | - 4 | 12 | V | $I_D = 7 \text{ A}, V_{GD} = 0 *^2$ |
| Forward transfer admittance | | y _{fs} | 0.7 | 1.0 | 1.4 | S | $I_D = 3 \text{ A}, V_{DS} = 10 \text{ V}^{*2}$ |
| Input capacitance | | Ciss | = 1 | 600 | - O. | pF | $V_{GS} = -5 \text{ V}, V_{DS} = 10 \text{ V},$ |
| Output capacitance | | Coss | ~ - | 350 | 9- | pF | f = 1 MHz |
| Reverse transfer capacitance | | Crss | 1-1 | 10 | _ | pF | |
| Turn-on time | | ton | | 180 | _ | ns | $V_{DD} = 20 \text{ V}, I_D = 4 \text{ A}$ |
| Turn-off time | | t _{off} | _ | 60 | _ | ns | |

Note: 2. Pulse test

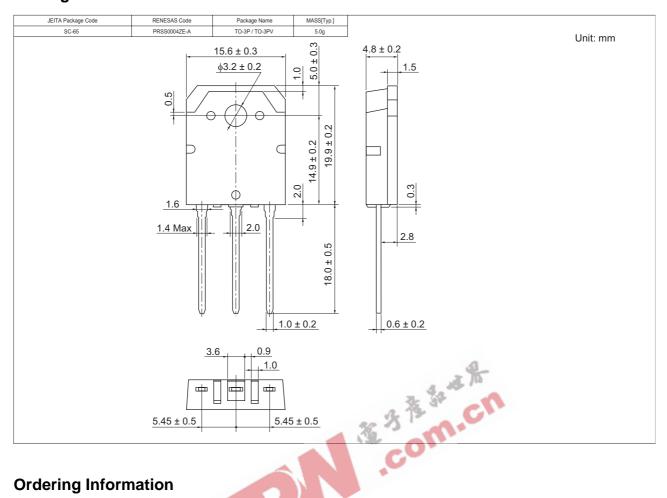


Main Characteristics





Package Dimensions



Ordering Information

| Part Name | Quantity | Shipping Container |
|-----------|----------|--------------------|
| 2SK1056-E | 360 pcs | Box (Tube) |
| 2SK1057-E | 360 pcs | Box (Tube) |
| 2SK1058-E | 360 pcs | Box (Tube) |

Note: For some grades, production may be terminated. Please contact the Renesas sales office to check the state of production before ordering the product.

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